1641

USTOMER NO. 35745

Attorney Docket No. 100405-02251

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

n re Application of: Wohlstadter et al.

Serial No.:

09/771,796

Filed:

January 29, 2001

.Examiner:

CHEU, Changhwa J.

Group Art Unit:

1641

For:

MULTI-ARRAY, MULTI-SPECIFIC

ELECTROCHEMILUMINESCENCE TESTING

MAIL STOP AMENDMENT Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

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Sir:

CERTIFICATE OF MAILING UNDER 37 C.F.R. § 1.8

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as First Class Mail in an envelope addressed to MAIL STOP AMENDMENT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on

September 27, 2004.

Signature: Aaron S. Haleva

INFORMATION DISCLOSURE STATEMENT

Applicants respectfully submit this Information Disclosure Statement pursuant to 37 C.F.R. §§ 1.97 and 1.98 in order to comply with the duty of disclosure under 37 C.F.R. § 1.56. The references are listed on the attached modified PTO Form No. 1449. Copies of the U.S. patent references are not being provided pursuant to the Official Gazette Notice dated 05 August 2003 waiving the requirement for the same under 37 C.F.R. § 1.98(a)(2). However, for the Examiner's convenience, a copy of the face page of U.S. Patent No. 6,207,369, not previously submitted, is enclosed.

This Information Disclosure Statement is being mailed before the mailing date of any of the events listed in 37 C.F.R. 1.97(c), with the fee as provided in 37 C.F.R. § 1.97(c)(2) and 37 C.F.R. § 1.17(p) (i.e. our check no. 9056 for \$180.00 is enclosed). Thus, pursuant to 37 C.F.R.

§ 1.97(c), Applicants respectfully request that the information be expressly considered during the

prosecution of this application and that the references be made of record therein and appear among

the "References Cited" on any patent to issue therefrom. Applicants further request that a copy of

the modified PTO Form No. 1449, appropriately initialed by the Examiner, be returned to

Applicants' attorney.

This Information Disclosure Statement is not a representation that the references

cited are considered most pertinent, or that a search has been undertaken, or that the cited

references are indeed prior art. The Examiner is invited to undertake an independent search.

It is believed that no additional fees are due in connection with this Information Disclosure

Statement. However, should any fees be due, the Commissioner is authorized to charge Deposit

Account No. 50-0540 for such fees. Early and favorable action is earnestly solicited.

Respectfully submitted,

Aaron S. Haleva

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ATTY. DOCKET NO. 100405-02251

SERIAL NO. 09/771,796

LIST OF REFERENCES CITED BY APPLICANT

(Use several sheets if necessary)

APPLICANTS Wohlstadter et al.

FILING DATE **GROUP ART UNIT** January 29, 2001 1641

U.S. PATENT DOCUMENTS

EXAMINER	DOCUMENT				SUB-	FILING DATE IF
INITIAL	NUMBER	DATE	NAME	CLASS	CLASS	APPROPRIATE
	4,280,815	07/28/81	Oberhardt et al.			
	4,390,405	6/28/83	Hahn et al.			
	4,498,780	2/12/85	Banno et al.			
	4,541,908	9/17/85	Niki et al.			
	4,652,333	03/24/87	Carney			
	4,663,230	05/05/87	Tennent			
	4,826,759	05/02/89	Guire et al.			
	4,849,330	7/18/89	Humphries et al.			
	4,891,321	01/02/90	Hubscher			
	5,002,652	3/26/91	Nelson et al.			
	5,030,310	7/7/91	Wogoman et al.			
	5,061,445	10/29/91	Zoski et al.			
	5,066,372	11/19/91	Weetall et al.			
	5,068,088	11/26/91	Hall et al.			
	5,093,268	03/03/92	Leventis et al.			
	5,098,771	03/24/92	Friend			
	5,110,693	05/05/92	Friend et al.			
	5,124,075	06/23/92	Yasada et al.			
	5,147,806	09/15/92	Kamin et al.			
	5,149,630	9/22/92	Forrest et al.			
	5,165,909	11/24/92	Tennent et al.			
	5,171,560	12/15/92	Tennent			
	5,187,096	2/16/93	Giaever et al.			
	5,189,549	02/23/93	Leventis et al.		1	
	5,194,133	03/16/93	Cluck et al.			
	5,218,312	6/8/93	Moro			
	5,220,787	5/28/96	Hanagan et al.		1	
	5,221,605	06/22/93	Bard et al.			
	5,238,808	08/24/93	Bard et al.			
	5,240,863	08/31/93	Shibue et al.			
	5,247,243	09/21/93	Hall et al.			
	5,264,103	11/23/93	Yoshioka et al.			
	5,296,191	03/22/94	Hall et al.			-
	5,304,326	04/19/94	Goto et al.			
	5,308,754	5/3/94	Kankare et al.			
	5,310,687	05/10/94	Bard et al.			
	5,324,475	01/28/94	Zhang et al.			
	5,340,716	08/23/94	Ullman et al.			-

EXAMINER

DATE CONSIDERED

^{*} EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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Based on Form (3/90)		E.		ATTY. DOCKE' 100405-02251	T NO.		SERIAL N 09/771,79		
		ENCES CITED M							
(U	se sev	eral sheets if neces	sary)	APPLICANTS					
				Wohlstadter et a	.1				
				FILING DATE		·	CDOUD	RT UNIT	
				January 29, 200	1		1641	KI UNII	
		5,389,215	2/14/95	Horiuchi et al.	- 		1041		
		5,418,171	05/23/95	Kimura et al.					
		5,429,735	7/4/95	Johnson et al.					
		5,459,068	6/18/96	Stanley					
		5,466,416	11/14/95	Ghaed et al.	-				
	,	5,468,606	11/21/95	Bogart et al.					
		5,492,840	02/20/96	Malmgvist					
		5,527,670	10/17/95	Madara			·		
		5,547,555	8/20/96	Schwartz et al.					
		5,589,136	12/31/96	Northrup et al.					
		5,591,581	1/7/97	Massey et al.					
		5,632,957	05/27/97	Heller et al.					
		5,643,721	7/1/97	Spring et al.					
		5,670,322	9/23/97	Eggers et al.					
		5,776,672	7/7/98	Hashimoto et al.					
		5,866,434	2/2/99	Massey et al.		· · · · · · · · · · · · · · · · · · ·			
		5,968,745	10/19/99	Thorpe et al.					
		5,972,694	10/26/99	Mathus					
		6,066,448	5/23/00	Wohlstadter et al.		"			
		6,071,395	6/6/00	Lange					
		6,083,763	7/4/00	Balch					
		6,090,545	7/18/00	Wohlstadter et al.					
		6,127,127	10/3/00	Eckhardt et al.					
		6,140,045	10/31/00	Wohlstadter et al.					
		6,207,369	3/27/01	Wohlstadter et al.					
		6,238,869	5/29/01	Kris et al.					
		6,251,685	6/26/01	Dorsel et al.					
		6,258,326	7/10/01	Modlin					
		6,264,814	7/24/01	Lange					
		6,413,783	7/2/02	Wohlstadter et al.					
		2001/0006417A1	7/5/01	Modlin et al.					
		2001/0029048A1	10/11/01	Ding et al.					
		2002/0014415A1	2/7/02	Nakayama et al.					
		2002/0025573A1	2/28/02	Maher et al.				L	
			FOREIGN P	ATENT DOCUM	ENTS				
Examiner Cite Initials* No. 1		Foreign Patent Document		Publication Date MM-DD-YYYY	Applic	f Patentee or ant of Cited	Where Rele	olumns, Lines, evant Passages or	T ⁵
Country Code ³ -Number ⁴ -Kind Code ⁵ (if known)				cument	Relevant	Figures Appear			
	_	CT WO 90/053		05/17/90	Sha	h et al.			
		CT WO 90/142		11/29/90		ing et al.			
	_	CT WO 92/141		08/20/92		nd et al.			
		CT WO 94/196		2/22/94		berg et al.	ļ		<u> </u>
	L P	CT WO 96/069	46	03/07/96	Ba	rd et al.	<u> </u>		L

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				İ	Wohlstadter et a	al			
					FILING DATE GROUP ART UNIT				
			•		January 29, 200		1641		
		PCT	WO 96/18059		06/13/96	Fisher et al.			
	ļ	PCT	WO 96/39534		12/12/96	Martin			
		PCT	WO 97/33176	· · · · · · · · · · · · · · · · · · ·	09/12/97	Massey et al.			
	-	PCT	WO 98/36266		2/10/98	Kulmala et al.			
		EPO	0 478 319 A1 0 522 677 A1		04/01/92	Hashimoto et al. Shibue et al.			
	-	EPO AU	720625		01/13/93 06/08/00	Wohlstadter et al			
	<u> </u>	AU	720023			·	<u> </u>		
					R REFERENCES				
			lethods in Enzymol 87.	logy, Immobil	ized Enzymes & C	ells, Pt. B.," Mosbac	h, K. Ed., Academic Press, Inc.		
							olutions on Self-Assembled ld, <u>Langmuir 10</u> : 1493-1497.		
		Ab	bott et al., 1992, "I	Manipulation (of the Wettability of	of Surfaces on the 0.1	- to		
	1-Micrometer Scale Through Micromachining and Molecular Self-Assembly", Science 257: 1380-1382.								
	Abbott et al., 1994, "Using Micromachining, Molecular Self-Assembly, and Wet Etching to Fabricate 0.1-1µm-Scale Structures of Gold and Silicon", Chemistry of Materials 6: 596-602.								
		Adalsteinsson et al., 1979, "Preparation and Magnetic Filtration of Polyacrylamide Gels Containing Covalently Immobilized Proteins and a Ferrofluid J. Mol. Catal. 6: 199-225.							
		Bain and Whitesides, 1989, "Modeling Organic Surfaces with Self-Assembled Monolayers", Angew.							
	Chem. 101: 522-528. Bains, 1992, "Setting a Sequence to Sequence a Sequence", Bio/Technology 10: 757-758.						ry 10: 757-758		
	Chaudhury and Whitesides, 1992, 'Setting a Sequence to								
	Science 255: 1230-1232.								
	Chaudhury and V								
	Deaver, D.R., 1995, "A New Non								
	DiMillia et al., 1994, "Wetting and Protein Adsorption of Self-Assembled (sic) Monolayers of Alkanethiolates Supported on Transparent Films of Gold," <u>Journal of the American Chemical Soci</u> 2225-2226.								
	Dresselhaus, M.S.; Dresselhaus, G.; Eklund, P.C.; "Science of Fullerenes and Carbon Nanotubes", Academic Press, San Diego, CA 1996.						nd Carbon Nanotubes",		
		Ferguson et al., 1991, "Contact Adhesion of Thin Gold Films on Elastomeric Supports: Cold Welding Under Ambient Conditions", Science 253: 776-778.							
		Ferguson et al., 1993, "Monolayers on Disordered Substrates: Self-Assembly of Alkyltrichlorosilanes- on							
		Surface-Modified Polyethylene and Poly(dimethylsiloxane)", Macromolecules 26: 5870-5875. Gershon & Khilko, 1995, "Stable Chelating Linkage for Reversible Immobilization of Oligohistidine							
		Tagged Proteins in the BIAcore Surface Plasmon Resonance Detector", J. of Immunol. Methods: 65-76. Haapakka, 1982, "The Mechanism of the Cobalt(II)-Catalyzed Electrogenerated Chemiluminescence of							
		Lu	minol in Aqueous	Alkaline Solut	tion", Anal. Chim A	Acta 141:263-268.			
	Hickman et al., 1991, "Molecular Self-Assembly of Two-Terminal Voltammetric Microsensors with Internal References", Science 252: 688-691.						metric Microsensors with		
			drogels in Medicin			oas, N.A. Edition, CR	C Press, Boca Raton, Florida,		
							Approach Employing		
EXAMIN	EXAMINER Poly(methacry) chloride) Anchors			acj Alichois ,	s", <u>Anal. Chem.</u> <u>50</u> (11): 1487-1489. DATE CONSIDERED				
EARWIII	ALLIA .				DATE CON				
* EXAM						ance with MPEP 609.	Draw line through citation if not in		

Customer No. 35745

Attorney Docket No.: 100405-02251

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Based on Form PTO-1449 (3/90)		ATTY. DOCKET NO. 100405-02251	SERIAL NO. 09/771,796		
L ist of Refi	ERENCES CITED BY APPLICANT				
A Gée	several sheets if necessary)				
<i>(2)</i>	\	APPLICANTS			
SEP 2 9 2004 \$		Wohlstadter et al.			
E A	./	FILING DATE	GROUP ART UNIT		
B		January 29, 2001	1641		
SEP 2 9 2004	Kaneko, 1987, <u>Liquid Crystal TV I</u> Scientific Publishers, Tokyo; D. Re	Displays: Principles and Applicants of Liquid Crystal Displays (KTK eidel Publishing Company, Dordrecht) Chapter 2: 3-32.			
	Kim et al., 1995, "Polymer Microst	ructures formed by moulding in capilla	ries", Nature 376: 581-584.		
	Knight et al., 1994, "Occurrence, M	Mechanisms and Analytical Applications of Electrogenerated			
1	Chemiluminescence", Analyst 119:				
	Kumar and Whitesides, 1993, "Fear	tures of gold having micrometer to cent	timeter dimensions can be		
	formed through a combination of st	tamping with an elastomeric stamp and an alkanethiol 'ink' followed by			
	chemical etching", Appl. Phys. Lett	t. <u>63</u> : 2002-2004.			
	Kumar et al., 1994, "Patterning Sel	f-Assembled Monolayers: Applications	in Materials Science",		
	<u>Langmuir 10</u> : 1498-1511.				
		Self-Assembled Monolayers: Alkanethic	ols on Gold and Alkane		
	Carboxylic Acids on Alumina", Sci	<u>ience</u> <u>245</u> : 845-847.			
		generated Chemiluminescence: An Oxidative-Reduction Type ECL			
		Amine", <u>J. Electrochem. Soc</u> . <u>137</u> : 3127-3131.			
		se quantitation using an immobilized glucose dehydrogenase enzyme			
		thenium (II) chemiluminescent sensor" Analytica Chimica Acta 281:			
	475-481.				
		hemiluminescence Biosensors Using T			
		in Cation Exchange Polymers," Biosen	sors & Bioelect. 12(6): 479-489		
	(1997).	1 ()(')	17		
		ighput Microarray-Based Enzyme-Link	ted Immunosorbent Assay		
	(ELISA)", BioTechniques 27(4): 77		of Human Cutakinas"		
	BioTechniques, 31(1): 186-194 (20	d ELISAs for High-Throughput Analysis of Human Cytokines", 001).			
		gues With Nonphosphodiester Backbones", Annu. Rev. Biophys.			
	Biomol. Struct. 24: 167-183.	ues with nonphosphodiester Dackbonk	, Amia. Rev. Biophys.		
		ed Chemiluminescence. 53. Electroche	mistry and Emission from		
		pyridyl)ruthenium(II)-Based Surfactant on Gold and Tin Oxide			
	Electrodes", Langmuir 7: 195-201	yridyi)ruuromum(ii) Dubou Suriuoium			
		on Electrodes. 4. Nafion-Coated Electro	des and Electrogenerated		
		ached Ru(bpy) ₃ ²⁺ ", J. Am. Chem. Soc.			
		ormation of Self-Assembled Monolayer			
		col) of Structure HS (CH ₂)11(OCH ₂ CH ₂) _m OH on Gold" <u>Journal of the</u>			
	American Chemical Society 113: 1				
		obilization by Condensation Copolyme	rization into Cross-Linked		
	Polyacrylamide Gels", J. Am. Cher	n. Soc. 102(20): 6324-36.			
	Poly (Ethylene Glycol) chemistry:	Biotechnical & Biomedical Application	ns, Harris, J.M. Ed., 1992		
	Plenum Press.				
		emical detection of nucleic acids for dr	ng discovery and clinical		
	diagnostics", IVD Technology, Apr				
		Assembled Organic Monolayers: Mode	el Systems for Studying		
	Adsorption of Proteins at Surfaces"				
		orption of Proteins Onto Surfaces Conta			
	, , , ,	stem Using Self-Assembled Monolaye	rs J. Amer. Cnem. Soc. 113:		
	10714-721.				
EXAMINER		DATE CONSIDERED			

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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Based on Form PTO-1449		ATTY. DOCKET NO.	SERIAL NO.		
(3/90)		100405-02251	09/771,796		
LIST OF REFERE	NCES CITED BY APPLICANT				
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**		APPLICANTS			
الْغُ بينه و		Wohlstadter et al.			
SEP 2 9 2004 (1)		FILING DATE	GROUP ART UNIT		
<u> </u>	*	January 29, 2001	1641		
TAADEMINE TO		mer Films on Electrodes. 5. Electroch			
MADENATION		n. Chem. Soc. 103(17): 5007-5013 (1981)			
		oteins for Purification", <u>TIBTECH</u> <u>8</u> : 88-93.			
		cations for Biotechnology, Prentice Hal			
	, , ,	cal & Synethis Aspects" Souten, W.H.,	Ed., T. Wiley & Sons; NY,		
	1983				
		cognition at Self-Assembled Monolayers: Optimization of surface			
	functionalization", J. Chem. Phys. 9				
	Spinke et al., 1993, "Molecular Recognition at Self-Assembled Monolayers: The Construction of				
	Multicomponent Multilayers", <u>Langmuir 9</u> : 1821-1825. Strezoska et al., 1991, "DNA sequencing by hybridization: 100 bases read by a non-gel based method",				
	Proc. Natl. Acad. Sci. USA 88: 100		by a non-ger based method,		
	Sundberg et al., 1995, "Spatially-A	Jacules on Salid Supports" I			
	Am. Chem. Soc. 117: 12050-12057		decutes of Solid Supports, <u>s.</u>		
			utions" Cambridge Studies in		
	Tampion, J. and Tampion, M.D. "Immobilized Cells: Principles & Applications", Cambridge Studie Biotechnology 5, Cambridge Univ. Press, NY 1987.				
	ViewLux TM Features Guide Brochure, Perkin Elmer Brochure #1430-970-05 (April 2001).				
	Umek, Robert M., et al., "Electronic Detection Of Nucleic Acids - A Versatile Platform For Molecular				
	Diagnostics", J. Molecular Diagnostics, 3(2):74-84 (2001).				
	Wilber, et al., 1995, "Scanning Force Microscopies Can Image Patterned Self-Assembled Monolayers",				
	Langmuir 11: 825-831.				
	Wilson, R., et al, "Electrochemilu	minescence Detection of Glucose Oxid	ase as a Model for Flow		
		rs & Bioelec. 11(8): 805-810 (1996)			
	Xu, XH., et al., "Immobilization of DNA on an Aluminum (III) Alkanebisphosphonate Thin Film with				
		t Detection," J. Am. Chem. Soc. 116(18			
		Chemiluminescence. 55. Emission from	Adsorbed Ru(bpy) ₃ ²⁺ on		
	Graphite, Platinum, and Gold", Lan				
	Yang, H.J. et al., 1994, "Electrochemiluminescence: A New Diagnostic and Research Tool",				
	BioTechnology 12: 193-194.				
	Zhang et al., 1988, "Electrogenerated Chemiluminescent Emission from an Organized (L-B) Monolayer of				
	a ru(bpy) ₃ -Based Surfactant on Se	emiconductor and Metal Electrodes" J.	Phys. Chem. 92: 55666-5569.		

EXAMINER	DATE CONSIDERED
EAAMINER	DATE CONSIDERED

^{*} EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.